

dimethyl ether, ethylene glycol diethyl ether, ethylene glycol dipropyl ether, ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, ethylene glycol monopropyl ether, diethylene glycol dimethyl ether, diethylene glycol diethyl ether, diethylene glycol dipropyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monopropyl ether, triethylene glycol dimethyl ether, triethylene glycol diethyl ether, triethylene glycol dipropyl ether, triethylene glycol monomethyl ether, triethylene glycol monoethyl ether, triethylene glycol monopropyl ether, cellosolve acetate ethylene glycol diacetyl ether, ethylene glycol monoacetyl ether, diethylene glycol diacetyl ether, diethylene glycol monoacetyl ether, triethylene glycol diacetyl ether and triethylene glycol monoacetyl ether.

It is also possible to use polyethylene glycol having a weight-average molecular weight of 10,000 or lower or silicone oil.

The nonreactive compound (e1) preferably has a refractive index much smaller than that of the allyl-based prepolymer (A).

Among the viscosity reducing agents (E), examples of compounds (e2) having methallyl and/or allyl in a molecule thereof are mono(meth)allyl compounds such as (meth)allyl alcohol, (meth)allyl chloride, (meth)allyl acetate, (meth)allyl benzoate, (meth)allyl isovalerate, (meth)allyl caprylate, (meth)allyl caproate, (meth)allyl formate, (meth)allyl cinnamate, (meth)allyl salicylate, (meth)allyl dihydrojasmonate, (meth)allyl phenylacetate, (meth)allyl propionate, (meth)allyl butyrate, mono(meth)allyl adipate, mono(meth)allyl sebacate, mono(meth)allyl phthalate, mono(meth)allyl isophthalate, mono(meth)allyl terephthalate, mono(meth)allyl succinate, mono(meth)allyl trimellitate, mono(meth)allyl succinate, mono(meth)allyl

ricinoleate and mono(meth)allyl maleate; di(meth)allyl compounds such as di(meth)allyl adipate, di(meth)allyl sebacate, di(meth)allyl phthalate, di(meth)allyl isophthalate, di(meth)allyl terephthalate, di(meth)allyl succinate, di(meth)allyl trimellitate, di(meth)allyl succinate, di(meth)allyl ricinoleate and di(meth)allyl maleate, tri(meth)allyl phosphate, tri(meth)allyl isocyanurate and the like. It is also preferable to select a viscosity reducing agent (e2) having a refractive index much smaller than that of the allyl-based prepolymer (A).

The above-mentioned compounds can be used solely or in combination.

As the photo-polymerization initiator (C) used in the composition of the invention, there can be used those forming a radical by absorbing light being excellent in coherence. There can suitably be used those forming a radical by absorbing laser light, such as Kr laser (wavelength: 647 nm), He-Ne laser (wavelength: 633 nm), YAG laser (wavelength: 532 nm), Ar laser (wavelength: 515 and 488 nm) and He-Cd laser (wavelength: 442 nm) as light sources. As the photo-polymerization initiator, for example, there can preferably be used a carbonyl compound, an amine compound, an arylaminoacetic acid compound, an organotin compound, an alkylarylborate, an onium salt, an iron arene complex, a trihalogenomethyl-substituted triazine compound, an organic peroxide, a bisimidazole derivative, a titanocene compound and combinations of these initiators and a photosensitizing dye.

Examples of the carbonyl compound include benzil, benzoin ethyl ether, benzophenone and diethoxyacetophenone.

Examples of the amine compound are triethanolamine, triisopropanolamine, 2-dimethylaminobenzoic acid and the like.

An example of the arylaminoacetic acid compound is N-phenylglycine.

An example of the organotin compound is tributylbenzyltin.

Examples of the alkylarylborate are tetrabutylammonium triphenylbutylborate and triphenyl-n-butylborate.

An example of the onium salt is a diphenyliodonium salt.

An example of the iron arene complex is η^5 -cyclopentadienyl- η^6 -cumenyl-iron (1+)-hexafluorophosphate (1-).

An example of the trihalogenomethyl-substituted triazine compound is tris(trichloromethyl)triazine.

An example of the organic peroxide is 3, 3', 4, 4'-tetra(tert-butylperoxycarbonyl)benzophenone.

Examples of the bisimidazole derivative are 2, 2'-bis(o-chlorophenyl)-4, 4', 5, 5'-tetraphenyl-1, 1'-biimidazole and bis(2, 4, 5-triphenyl)imidazolyl.

An example of the titanocene compound is bis(η^5 -2, 4-cyclopentadien-1-yl)-bis(2, 6-difluoro-3-(1H-pyrrol-1-yl)phenyl)titanium.

These can be used solely or in combination.

As the photosensitizing dye, Michler's ketone, Acridine Yellow, merocyanine, methylene blue, camphorquinone, Eosin and decarboxylated rose bengal are preferably used. Any photosensitizing dye can be used as far as it exhibits absorption in the visible region, and in addition to the above, a cyanine derivative, a merocyanine derivative, a phthalocyanine